



Facilitating Informed Decisionmaking: The E-DEL+I* Analytic Technique

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*Electronic Decision Enhancement Leverager plus Integrator
(E-DEL+I™, ©, provisional patents, RAND 2001)

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Informed Decisionmaking with Diverse Stakeholders Is Complicated

- **Issues are complex**
- **Actions have far reaching impact on many organizations**
- **Meaningful communications among stakeholders may be limited, unorganized, based on different assumptions, and “unofficial”**
- **Each stakeholder must balance his focused interest with need to interact with others**
- **Requires awareness of others’ needs and views**

Existing Techniques for Informed Decisionmaking Are Lacking

- Undisciplined
- Costly
- Logistically burdensome to implement
- Ineffective
 - Fractured focus
- Independence and anonymity not supported
- Input mechanism not balanced
 - Written versus verbal

Agenda

- **What is the E-DEL+I approach?**
- **Why is E-DEL+I valuable?**
- **How has E-DEL+I been used—an example is Smart Outsourcing?**

E-DEL+I Is an Analytic Technique That Facilitates Informed Decisionmaking

- **Applicable to complex issues that involve multiple dimensions**
 - **Technical, political, military, cost, return on investment, legal, or other aspects**
- **Can blend technical expertise and understanding of military operations/doctrine/policy to arrive at a balanced solution acceptable to all stakeholders**
- **Especially effective when critical data must be derived from information that resides in the collective knowledge base of many individuals and organizations**

E-DEL+I Exercises Are Tailored to the Application

- **Expert panel**
 - Panel's collective knowledge base spans the issues to be addressed
 - Panel is balanced in representation
- **Metric**
 - Devised to assess dimensions critical to the issue
- **Questionnaire**
 - Designed to solicit assessments
- **Standard for consensus**
 - Higher than simple majority

A Typical E-DEL+I Exercise Has Four Rounds

Round 1

Assessments
& rationales
based on
experts'
knowledge
and
background
material



Background
material

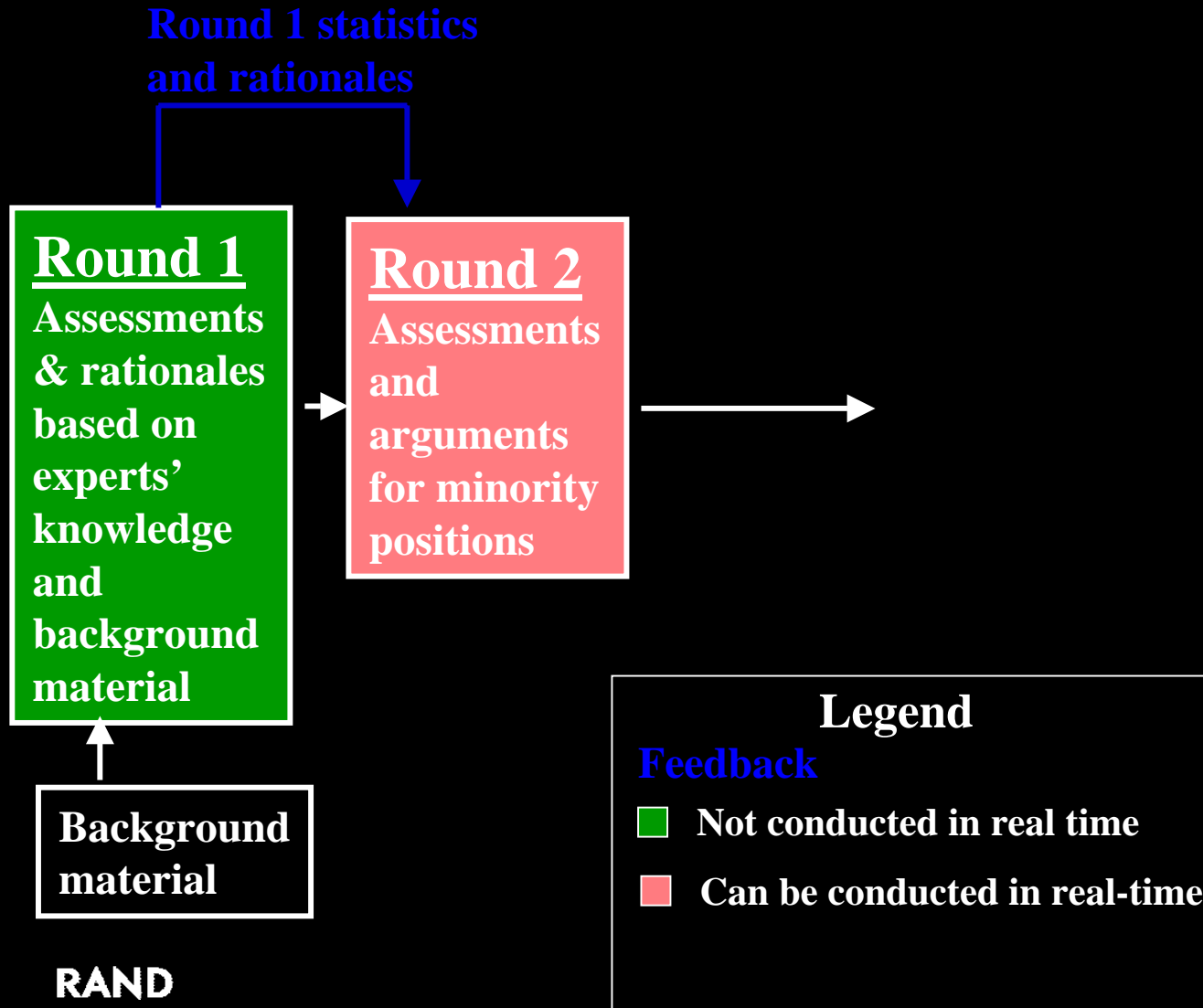


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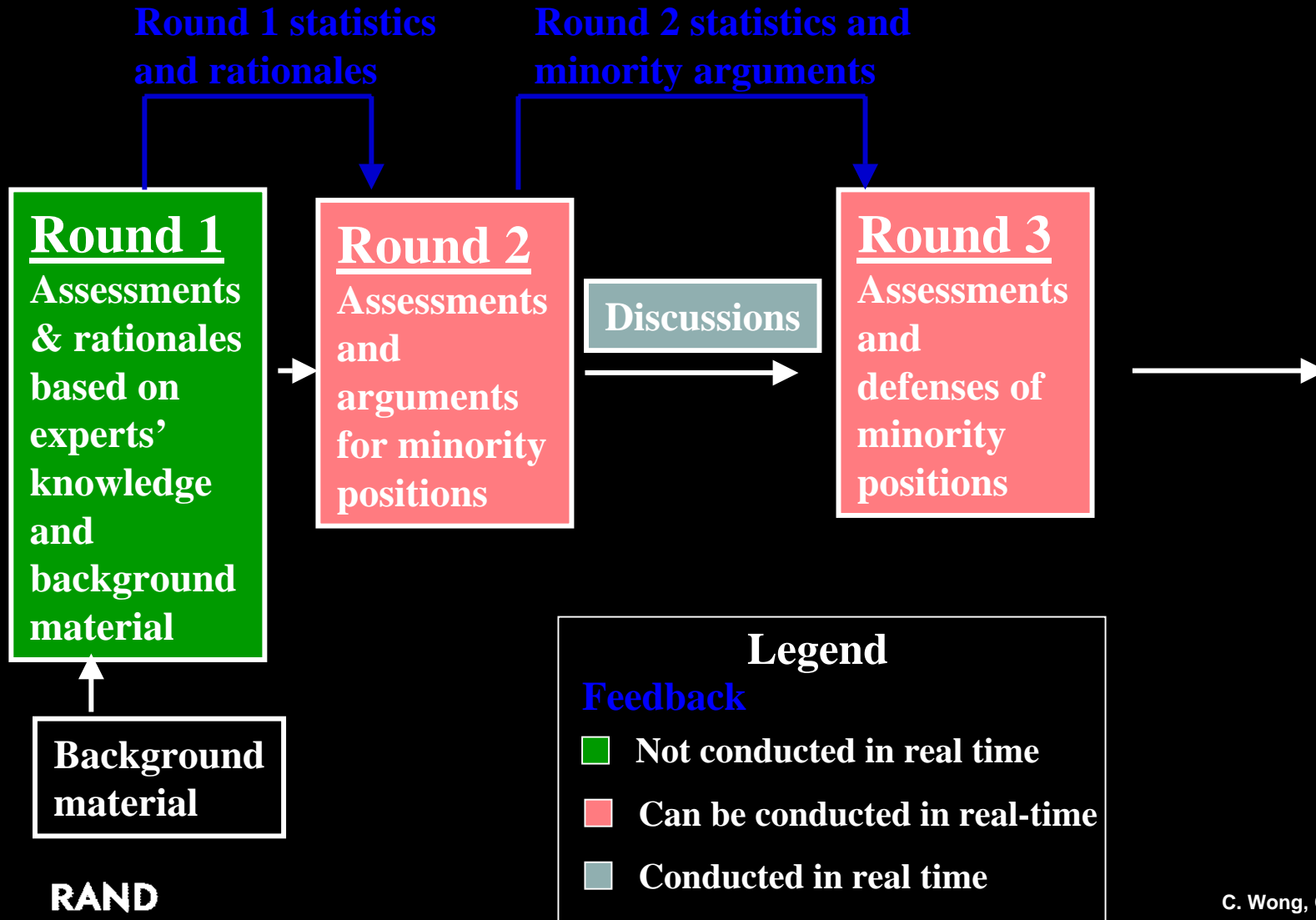
Legend

■ Not conducted in real time

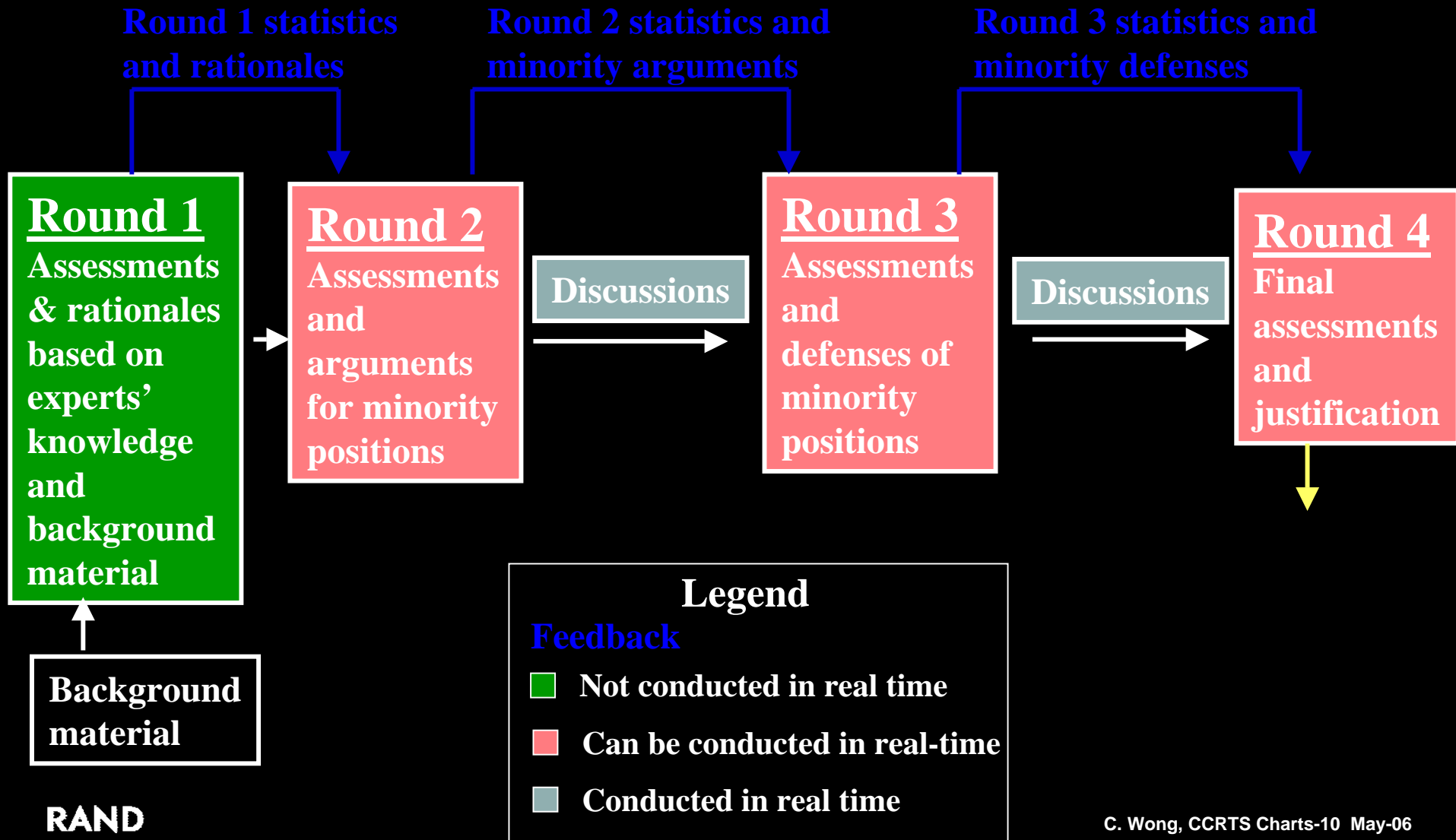
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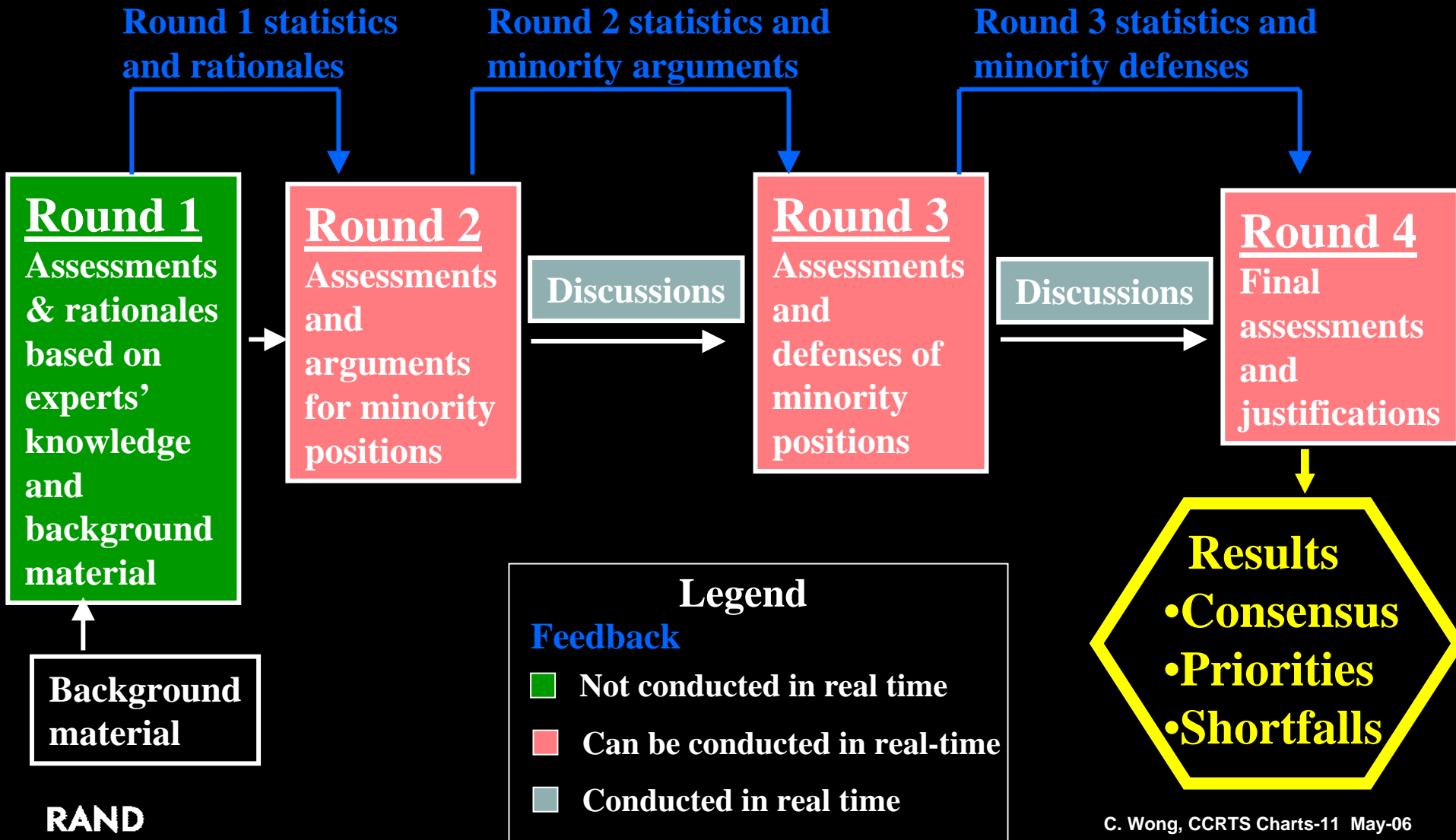
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E-DEL+I Consists of a Framework and a Process with Built-in Flexibility

- **Incorporates structured integration of diverse inputs**
- **Supports electronic exercises enabling many experts to participate from diverse physical locations**
- **Has iterative feedback feature to encourage a team approach**
- **Includes discussion sessions to encourage collaborative solutions**
- **Allows for comprehensive tracking and quantitative measures of priority/importance**

E-DEL+I Maximizes Objectivity

- **Independent assessments**
- **Anonymity of expert panel members**
- **Discussion sessions are facilitated by neutral party**
- **Final E-DEL+I exercise results define a way forward**
 - **Feasible alternatives are identified**
 - **Relative priority/importance of alternatives**
 - **How many and which stakeholders agree/disagree and why**
 - **Areas of concern and negotiation points**

E-DEL+I Minimizes Cost and Logistical Burden

- **Uses commonly available resources**
- **Exercise material sent electronically to participants**
 - E-mail with capability to read attachments
 - Microsoft Excel to complete questionnaire
 - Telephone to participate in discussion sessions
- **Exercise is iterative**
 - Can take 2-3 hours or activities can be spaced over weeks
 - Participation requires filling out questionnaire for each round and engaging in discussion sessions
- **Past exercises used 7 to 24 teams of participants**

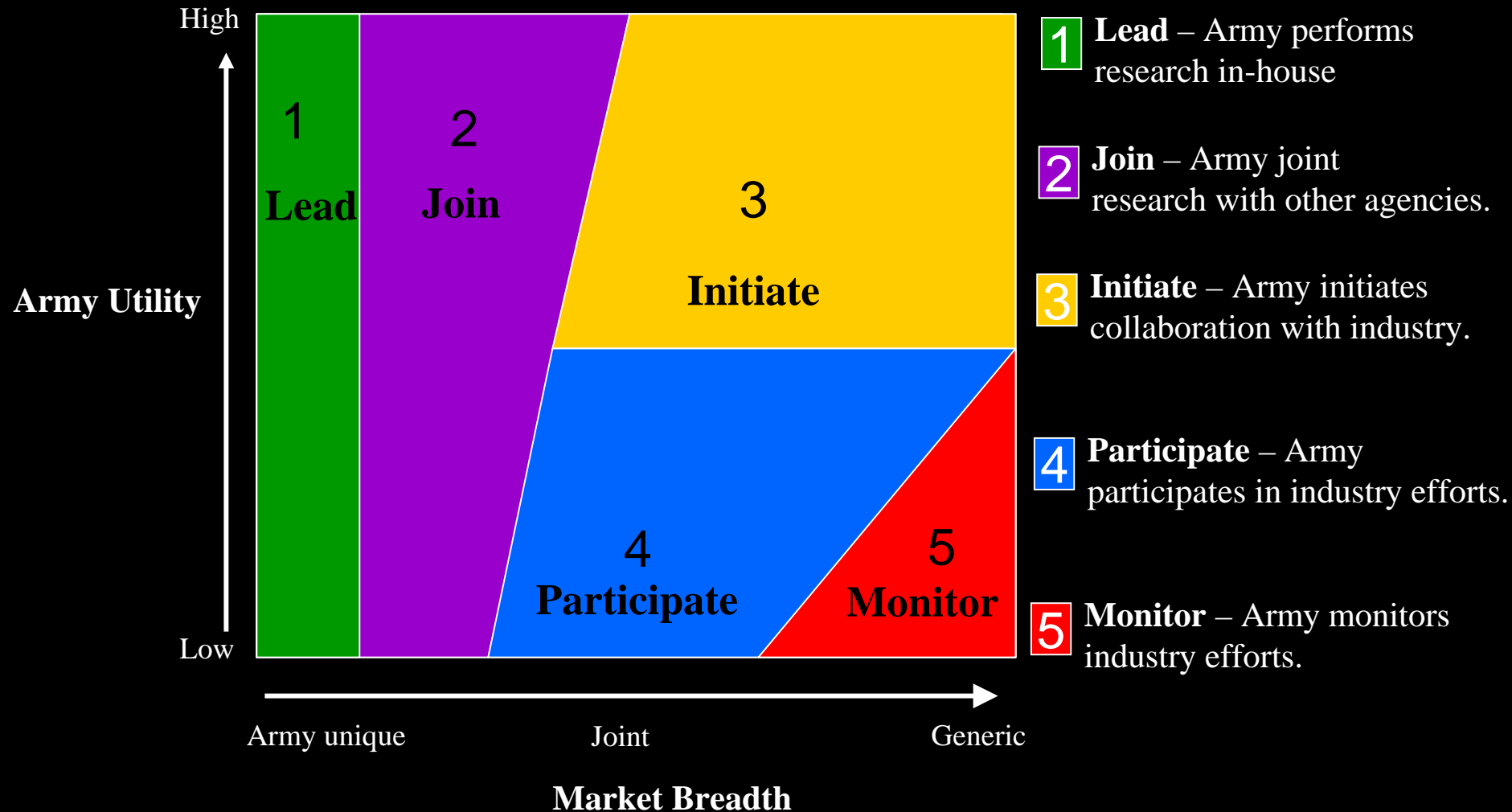
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Example: E-DEL+I Smart Outsourcing Exercise

- **Project purpose:** How can the Army accomplish more with its research dollars?
- **Approach:** Use E-DEL+I to place Army technologies on a market breadth-Army utility framework
- **Expert panel:** 13 members in 13 physical locations
- **Implementation: Round 1**
 - Not in real time
 - Designed to encourage participants to review background material and familiarize themselves with Excel format
- **Implementation: Rounds 2, 3, 4 with discussions**
 - Real time with e-mail file transmission and conference call

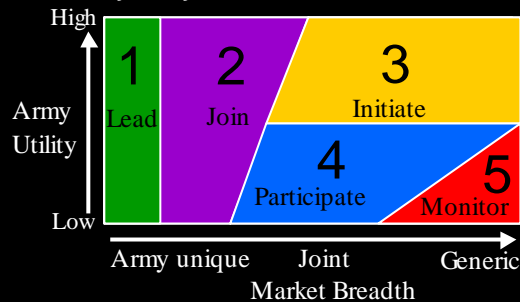
Example: E-DEL+I Smart Outsourcing Metric



Example: Smart Outsourcing Questionnaire

Directions: Please place the basic technologies in the framework domains using the numbers 1, 2, 3, 4, & 5 according to the following rating scale.

The Army Utility - Market Breadth Framework



1 = Lead - Technology has limited industry appeal. Army performs research in-house.

2 = Join - Technology of interest to other military or government agency. Army performs research jointly with other agencies.

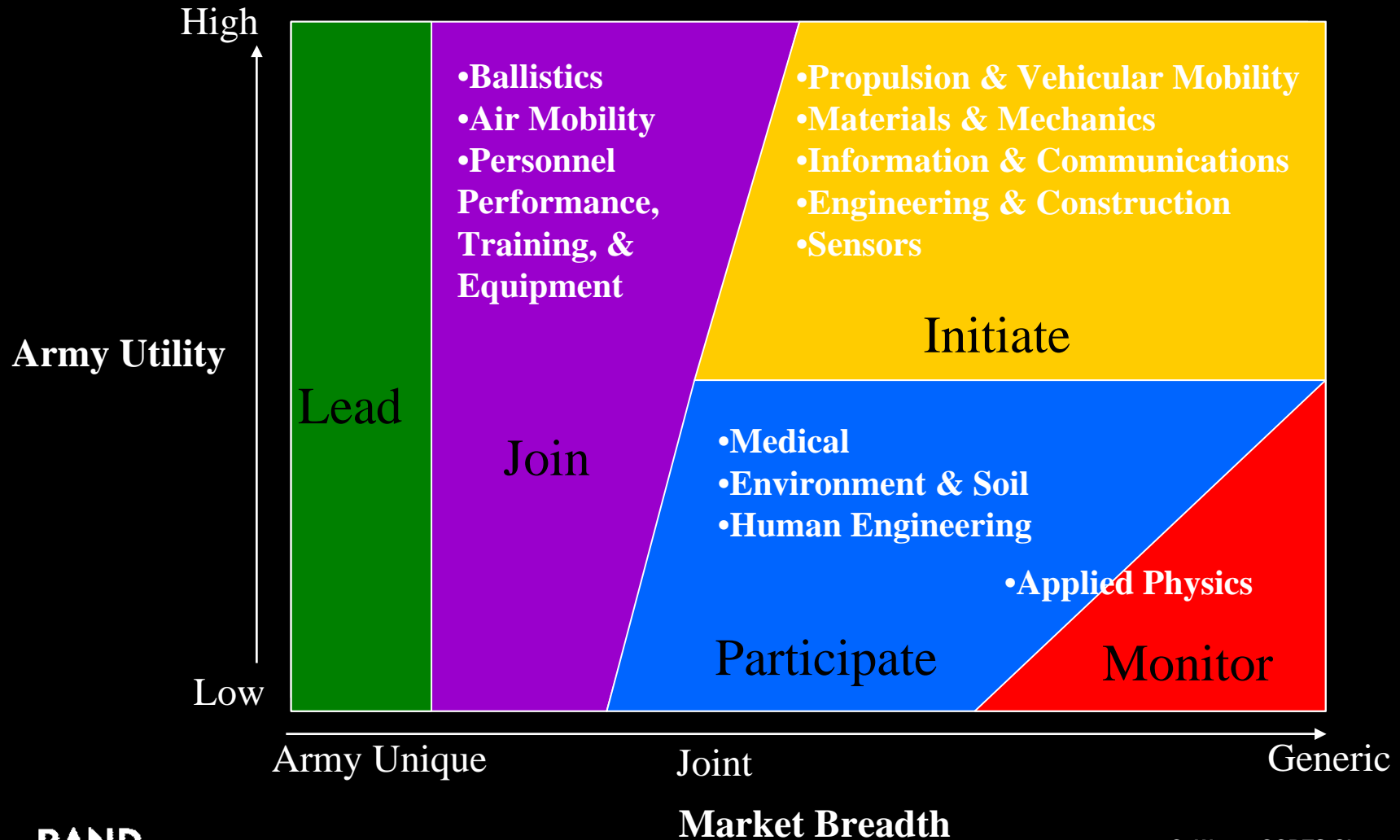
3 = Initiate - Technology of moderate to high Army utility appeals to industry. Army collaborates with industry in R&D.

4 = Participate - Technology of moderate or low Army utility appeals to industry. Army collaborates with industry in R&D.

5 = Monitor - Technology of moderate to low Army utility has high industry appeal. R&D performed by industry with little or no Army resources.

			Statistical Feedback from Round 1 Responses		
FY2001 Army Technology	Domain	Rationale	Mode(s)	Mean	Median
Propulsion & Vehicular Mobility			3	2.615385	3
Materials & Mechanics			3	2.769231	3
Ballistics			2	1.692308	2
Air Mobility			2, 3	2.615385	3
Applied Physics			5	4	4
Information & Communications			3	3	3
Medical			3	3.538462	3
Engineering & Construction			3	2.923077	3
Sensors			2	2.692308	3
Environment & Soil			4	2.923077	3
Human Engineering			4	3	3
Personnel Performance, Training, & Equipment			4	2.923077	3

Example: Smart Outsourcing E-DEL+I Exercise Results



Selected E-DEL+I Applications

- **Development of smart outsourcing strategies for the Army**
- **Identification of affordable technologies for the Army**
- **Evaluation of alternative organizational structures for Army Laboratories**
- **Assessment of alternative strategic directions for the Army**
- **Specification of investment portfolio management for the Navy**
- **Functional-Area Analysis for Net-Centric Operational Environment**

Selected E-DEL+I References

- ***An Analysis of Collaborative Research Opportunities for the Army, MR-675-A, RAND Corporation, 1998***
- ***How Will the e-Explosion Affect How We Do Research?, DB-399-RC, RAND Corporation, 2003***
- ***“An Approach for Efficiently Managing DoD R&D Portfolios,” Acquisition Review Quarterly, Fall 1998***
- ***Applicability of Alternative Organizational Models to Army Laboratories, DB-347-A, RAND Corporation, 2001***
- ***Portfolio Analysis and Management for Naval Research and Development, MG-271-NAVY, RAND Corporation, 2004***

Summary

- **Informed decisionmaking is difficult**
- **E-DEL+I technique facilitates informed decisionmaking**
 - **Minimizes cost and logistical burden**
 - **Maximizes objectivity**
 - **Incorporates built-in flexibility**
 - **Tailored to application**
- **E-DEL+I has been successfully used to define ways forward in a variety of projects**



***For more information on the
E-DEL+I Analytic Technique contact***

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